DIGITAL INDUSTRIES SOFTWARE

Line Designer

Providing a complete production layout solution for manufacturing engineers

Benefits

- Quickly design and visualize production lines in NX

- Perform accurate impact analysis and drive efficient change management

- Use a single system for product, tool, and production system design

- Access a fully classified equipment library that can be managed with Teamcenter

- Design, validate, and commission manufacturing lines on a single PLM platform

Summary

Line Designer is an advanced application to design and visualize layouts of production lines in NX™ software. The integrated Siemens Digital Industries Software platform enables you to easily associate the designed layout to manufacturing planning.

This close integration with planning and equipment design allows you to efficiently manage the entire manufacturing process. You can easily optimize the process by specifying each production step down to managing a single manufacturing resource, such as a robot or a fixture.

You can perform accurate impact analysis and drive efficient change management by using the parametric resources that are associated with the manufacturing plan.

Having a complete solution for line-level design that is integrated with manufacturing planning is essential to define optimized production processes.
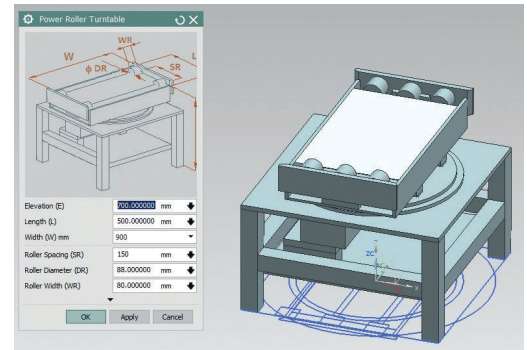
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Features

- Parametric capabilities to create manu-facturing layouts

- Flexible digital representation of manu-facturing equipment so you can easily switch between multiple 2D and 3D representations, all in the same system

- Advanced technology, such as visualiza-tion tools and JT, to efficiently handle a large amount of complex data

- Direct access to component properties using NX Visual Reporting

- Validation of designed layouts with Tecnomatix Process Simulate and Plant Simulation software

- Multi-CAD support

Layout the production concept in NX

The parametric engine in NX enables you to efficiently work with manufacturing compo-nents and to easily accom-modate any changes. When adjusting the size of individ-ual components or modifying the layout, the dependent components automatically update.
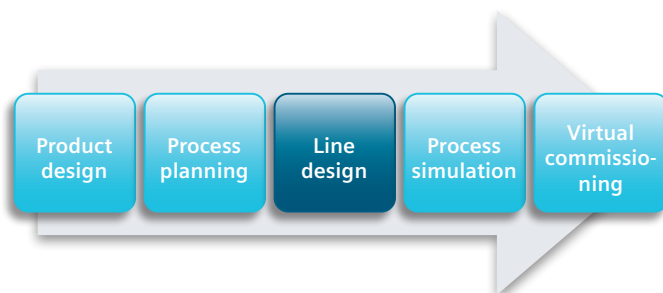

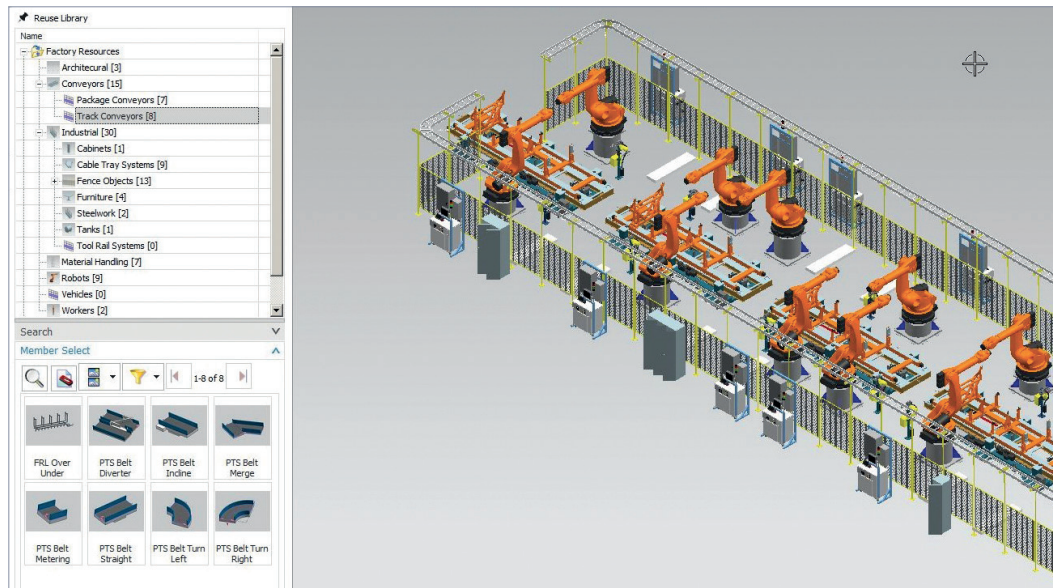Define smart components with NX parametric modeling.

For each phase of the layout design, you can use the correct digital representa-tion of the manufacturing components:

2D representation: quickly position the components and generate drawings.

Simplified represen-tation: design the 3D layout with a mini-mum number of components.

Detailed represen-tation: simulate and detect interferences by using all of the equip-ment's details.

The fully classified equipment library is managed using Teamcenter® software, a complete system for data and process management. By connecting to the Teamcenter library environment, you can utilize the powerful search, view, and retrieval capabilities across the entire library directly from NX.

Line design is a key element of the factory layout design and manufacturing planning workflow.

Share the same library equipment with the Siemens Digital Industries Software suite of applications.
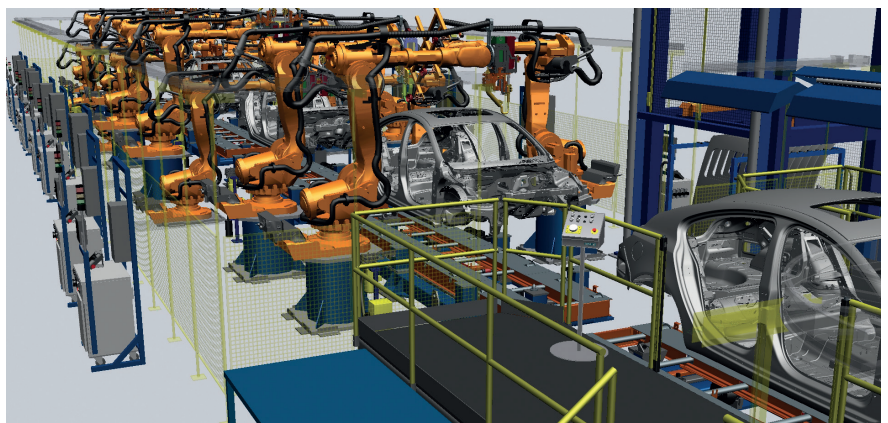
To efficiently handle a large amount of complex data, NX provides advanced technology such as visualization tools and techniques and the JT™ data format. NX models are easily scalable to layouts with a large number of components. JT is a lightweight data technology that provides high-performance visualization and collaboration capabilities.

The layout designed with Line Designer can be used to validate the manufacturing process using Tecnomatix® software for digital manufacturing. Using the Process Simulate application, you can validate a wide range of robotic applications, allowing you to simulate complete production systems, including cell validation and robot placement optimization. By simulating production processes with the Plant Simulation application, you can define the optimum manufacturing process.
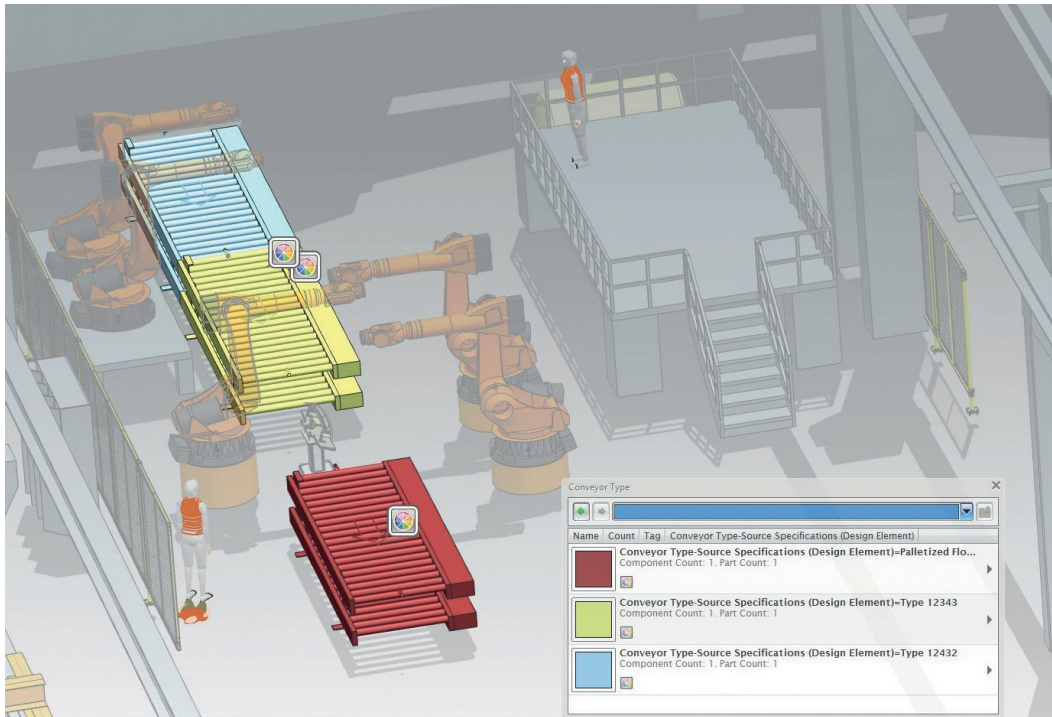
With Tecnomatix virtual commissioning solutions, you can correct your programmable logic controller (PLC) codes in a virtual environment before using them on real equipment. By simulating and validating your automation

equipment virtually, you can ensure proper operation and significantly reduce system startup time. Using the Siemens Digital Industries Software unified platform provides efficient change management and direct access to a shared library of manufacturing assets. Re-usable best practices can be synchronized across the solution. You can further expand the solution to efficiently work with suppliers and system integrators.

Validate the designed production lines with Process Simulate and Plant Simulation software.

Directly access and display factory layout component properties using NX Visual Reporting.

Visual reporting and documentation

You can use Line Designer to directly access a layout's product lifecycle management (PLM) information in Teamcenter. Line Designer can display relevant information about each component, including type, design changes, suppliers, investment cost, and build dates.

With NX Visual Reporting, you can browse PLM data and view details in an interactive navigator.

Visual reports can be configured to display color-coded information on manufacturing equipment models based on values and properties so you can quickly and intuitively visualize components in make-or-buy categories, identify long-lead items or all equipment suppliers responsible for a full line of equipment.

Visual reports can be managed and distributed to benefit the entire enterprise.